BIOLOGICAL RESOURCES AND WETLAND SURVEY REPORT

FOR:

HEFNER-BROWN MINOR SUBDIVISION

TPM 21159 ER# 09-02-002

BONSALL
SAN DIEGO COUNTY, CALIFORNIA

PREPARED FOR
THE COUNTY OF SAN DIEGO

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TABLE OF CONTENTS

LIST OF FIGURES, TABLES, AND APPENDICES

FIGURES

TABLES

APPENDICES

GLOSSARY OF TERMS AND ACRONYMS

BMPs	Best Management Practices
CDFG	California Department of Fish and Game
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CSS	Coastal Sage Scrub
CWA	Clean Water Act
CNDDB	California Natural Diversity Data Base
CNPS	California Native Plant Society
DPLU	Department of Planning and Land Use
ESA	Endangered Species Act
HLP	Habitat Loss Permit
MSCP	Multiple Species Conservation Program
NCCP	Natural Community Conservation Program
PAMA	Pre-Approved Mitigation Area
RWQCB	Regional Water Quality Control Board
RPO	Resource Protection Ordinance
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service

SUMMARY

The Hefner-Brown is the subdivision of a single 57.9 acre parcel into four lots and a remainder parcel containing an existing single-family residence. The project site is located just west of Interstate 15 and north of Camino Del Rey in the northeast portion of San Diego County.

The project site is situated in a semi-rural portion of San Diego County characterized by estate residential properties and agriculture, mostly nurseries and avocado groves.

Most of the site is currently in a natural condition, with Coastal Sage Scrub (45.2 acres) and Southern Mixed Chaparral (4.0 acres) vegetation communities dominating. The only federal or state listed species found on the site was a single California Gnatcatcher.

As currently proposed, direct impacts from project implementation will result in the loss of 7.8 acres of Coastal Sage Scrub and 1.4 acres of Southern Mixed Chaparral. To mitigate impacts to below a level of significant, a Biological Open Space Easement be placed over 35.1 acres of Coastal Sage Scrub and 1.5 acres of Southern Mixed Chaparral. The project as currently designed exceeds all on-site mitigation requirements, with over 63% of the property to be protected.

1.0 INTRODUCTION

1.1 Purpose of the Report

The purpose of this report is to document the biological resources identified as present or potentially present on the project site; identify potential biological resource impacts resulting from the proposed project; and recommend measures to avoid, minimize, and/or mitigate significant impacts consistent with federal, state and local rules and regulations including the California Environmental Quality Act (CEQA) and County of San Diego Resource Protection Ordinance (RPO). The report considers potential impacts including locations of leach fields, fire fuel modification/vegetation management areas and specifications, graded or cleared areas, access, noise producers, stormwater BMPs, landscaping, and lighting.

1.2 Project Location and Description

Project Location. The project site is located in the northwest section of San Diego County, between Interstate 15 and Aqueduct Road, just north of Camino Del Rey in the community of Bonsall (Figures 1 and 2). The site is situated between 300 and 850 feet above sea level (Bonsall 7.5 minute series quadrangle, Figure 3). The approximate USGS coordinates of the site are 33°17'N, 117°09W.

Project Description. The Hefner-Brown project is the subdivision of a 57.9 acre parcel currently containing a single family residence into four legal lots and a remainder (containing the existing residence). The lots created by the project are intended to support single-family rural residential development. The area surrounding the site contains agricultural operations and residences similar to those proposed. Access would be by two existing private streets, Aqueduct Road and Top Triangle Ranch Road. The site will contain a biological open space easement, steep slope easements, and limited building zone easements.

The only area requiring off-site improvements is the existing access road (Top Triangle Ranch Road) which extends south approximately 1,800 feet to Camino Del Rey. This access road is bordered on the east by the right-of-way for Interstate 15 and on the west by the existing equestrian facility. No sensitive resources will be impacted by road improvements as they are already impacted by existing roadway fire clearing requirements.

1.3 Survey Methods

To assess the biological resources of the property, the project site was visited three times between 7 and 28 July 2009. This includes visits for focused surveys for California Gnatcatchers *Polioptila californica* (Appendix E). On all visits conditions were conducive to unrestricted plant and animal observation. Over the course of the visits, all areas of the project site and adjacent lands were examined by foot. The general biological reconnaissance and wetland survey were conducted on the afternoons of the 7th and 14th of July. A total of 12 hours was spent assessing general biological resources. During my visits, I was able to examine the entire project site and adjacent areas. Observations on-site were recorded as they were made, and form the basis of this report and the Biological Resources Map. Animals were identified using scat, tracks, burrows, vocalizations, or direct observation with the aid of 10X42 Leica binoculars. Vegetation mapping

was conducted in accordance with vegetation community definitions as described in Holland (1986) and Oberbauer (1996). In addition, vegetation mapping on-site was aided by the use of aerial and satellite photographs. Area calculations taken from the base map were provided by the project engineer using AutoCad® utilities. It should be noted that all vegetation community mapping is verified on the ground to the greatest degree possible in the absence of a systematic land survey. All vegetation areas and boundaries are estimates subject to final delineation by a licensed professional land surveyor.

Prior to the site visits, a variety of sources were reviewed to ascertain the possible occurrence of sensitive species at the project site. First, soil types (Bowman 1973) were checked to determine if the site contains soils known to support sensitive plant species. Records searches for the USGS quadrangle and surrounding quads were done of the California Natural Diversity Data Base (CNDDB) and California Native Plant Society (CNPS) On-Line Inventory of Rare and Endangered Plants. Any sensitive species known to occur in the vicinity were given special attention, and available natural history information was reviewed. Seasonal occurrence patterns (*e.g.*, annual plants, migratory birds) were factored into survey plans in the event that site visits were made during time periods when certain species are not present or conspicuous. Information sources include the Jepson Manual (1993), Rare Plants of San Diego (Reiser 1994), A Flora of San Diego County, California (Beauchamp 1986), San Diego Native Plants (Lightner 2006), U.S. Fish and Wildlife Service Recovery Plans for Threatened/Endangered Species, the San Diego County Bird Atlas (Unitt 2004), and numerous other references, publications, and on-line resources. Typically, 15-20 field guides to various taxa are taken into the field for quick reference if necessary.

A list of sensitive species with potential to occur at the site was provided by DPLU (Appendix D). All species on the list were reviewed, and those species requiring directed or focused protocol surveys were noted and given special attention.

In the field, potentially sensitive plants species not readily identified *in situ* were photographed and/or collected for identification via keys or other methods.

During site visits, all habitats were assessed for their suitability for occupation by any sensitive species with potential to occur.

1.4 Environmental Setting (Existing Conditions)

The project site is situated in a semi-rural portion of San Diego County, characterized by estate homes and extensive agriculture (Figures 5 and 6). The site includes a ridge and steep east facing slopes, as well as an existing avocado grove and single family residence. The southeast corner of the site includes an area currently being used to support a horse riding facility and stables. Most of the site (49.14 acres or 85%) is undeveloped and in a natural state.

Based on soil conservation service maps (Figure 4, Bowman 1973), the soils for the property consist primarily of Cieneba very rocky coarse sandy loam, 30 - 70% slopes (CmrG). Although a detailed soil analysis is beyond the scope of this report, on-site examination appeared to confirm the presence of this soil type. Boulder outcrops are scattered throughout the site.

1.4.1 Regional Context

The project site is located in the Draft North County MSCP Subarea Plan in an area proposed as a Pre-Approved Mitigation Area (PAMA). It is located within the San Luis Rey River watershed, and within the Interstate 15 viewshed.

1.4.2 Habitat Types/Vegetation Communities

The project site contains two dominant vegetation communities: Diegan Coastal Sage Scrub (CSS) and Southern Mixed Chaparral. In additional to these, there are small areas that contain Urban / Developed lands and Orchards and Vineyards. Diegan Coastal Sage Scrub and Southern Mixed Chaparral are considered sensitive by the County.

1.4.2.1 Diegan Coastal Sage Scrub (Holland Code 32500) - 45.2 acres

The site contains what could be called classic Coastal Sage Scrub, with dominant plant species including include laurel sumac *Malosma laurina*, California Buckwheat *Eriogonum fasciculatum* ssp. *fasciculatum*, California sagebrush *Artemisia californica*, chamise *Adenostoma fasciculatum*, and deerweed *Lotus scoparius* ssp. *scoparius*.

1.4.2.2 Southern Mixed Chaparral (Holland Code 37120) - 4.0 acres

This habitat type on the project site is restricted to the small areas of steep north and northwest facing slopes (Photograph 4). Here the vegetation is very dense and reaches heights of over 15 feet. Dominant plant species include laurel sumac, lemonadeberry *Rhus integrifolia*, mission manzanita *Xylococcus bicolor*, Ramona lilac *Ceanothus tomentosus*, and scrub oak *Quercus berberidifolia*.

1.4.2.3 Urban/Developed Habitat (Holland Code 12000) - 6.6 acres

This area includes the existing residence on the site, the roadways that transect the site, and the equestrian area in the southeast corner.

1.4.2.4 Orchards and Vineyards (Holland Code 18100) - 2.1 acres

A small portion of the site located west of Aqueduct Road and south of the existing residence contains a long-established avocado orchard.

1.4.3 Flora

The flora of the project site contains common and abundant plant species typically found in inland coastal settings in San Diego County at the site elevation. In natural settings, Coastal Sage Scrub and Southern Mixed Chaparral predominate in non-wetland areas. There is some overlap in the constituent plant species in the habitats on-site. A list of plant species found on the project site is provided in Appendix A.

1.4.4 Fauna

A typical CSS and Southern Mixed Chaparral fauna occurs on the site. A total of 16 bird species were recorded, including Red-tailed Hawk *Buteo jamaicensis*, Western Scrub-Jay *Aphelocoma californica*, California Towhee *Pipilo crissalis*, House Finch *Carpodacus mexicanus*, and **California Gnatcatcher** *Polioptila californica*. Four common mammal species were detected. A list of all wildlife species detected is provided in Appendix B.

1.4.5 Sensitive Plant Species

Sensitive plants are defined here as species of rare, threatened, or endangered status, or depleted or declining species according to the U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Game (CDFG), CNPS, the CNDDB record for the Bonsall 7.5 minute quadrangle, or species specifically considered sensitive by the County of San Diego. Appendix D contains a list of 20 sensitive plant species with potential to occur on the site. All site visits were conducted with special attention to looking for these sensitive plant species. No sensitive plant species were detected or are considered likely to occur, mostly due to a lack of suitable habitat or soils. Sensitive perennial plant species would have been detected during the site visits.

1.4.6 Sensitive Wildlife Species

Several sensitive species were either observed on the project site or are considered at least moderately likely to occur. These are discussed below:

The **Golden Eagle** *Aquila chrysaetos* is a protected species known to be declining in San Diego County. No known eagle nests are known to occur within five miles of the project site. Golden Eagles forage over open habitat in search of small mammalian prey. No Golden Eagles were observed during the site visits. Given the abundance of ideal foraging habitat elsewhere in the vicinity, it is unlikely that the site offers significant and important habitat for Golden Eagles. Impacts to this species as a result of project implementation are not anticipated.

Cooper's Hawks *Accipiter cooperi*, a state species of special concern, often forage in search of small birds over a variety of habitats. This urban-adapted species also occurs in oak woodlands and developed/residential areas. They are a common resident and migrant species in San Diego County. Although this species has apparently declined throughout much of California, there is no evidence for a breeding population decline in San Diego County. No Cooper's Hawks were seen during the site surveys, but their occurrence would not be surprising. The project would not adversely affect the species, thus no impacts are expected.

Red-shouldered Hawks *Buteo lineatus* are common and widespread residents and migrants in San Diego County, occurring in a wide variety of habitats including developed orchards and residential areas. Their population has increased dramatically in the last 100 years, and they are now extremely common in urban settings. It can be stated with a high degree of certainty that urbanization and agriculture have been beneficial for this species. The species was not recorded during site surveys, but portions of the project site are likely used as foraging habitat. Project development is unlikely to have any adverse impacts because this species has a high degree of

adaptability to human-altered habitats and human disturbance, especially in Southern California (Bloom, *et. al.* 1993).

Turkey Vultures *Cathartes aura* forage for carrion over a variety of habitats. They are common migrants and winter residents in San Diego County, and were a formerly more common breeding species. The site is likely occasionally used as foraging habitat for this species. The species was observed during the site surveys (during migration), however, impacts to this species are not anticipated. Turkey vultures are highly sensitive to disturbance at their nests. No suitable nesting habitat exists on or near the project site.

The **California Gnatcatcher** is a federal threatened species, a state species of concern, and is a "target species" of the NCCP process. This species is a non-migratory resident whose range covers the coastal plains and foothills of Southern California and northern Baja California. In San Diego County, it is widespread in coastal lowlands below about 2,000 feet elevation and typically occurs in or near CSS. The California Gnatcatcher is seriously declining due to loss of habitat. Between 85% and 90% of this species' habitat has been lost to urban or agricultural development. It is almost extirpated from Ventura, San Bernadino, and Los Angeles counties. The population is estimated to be just under 5000 pairs. San Diego County appears to be the center of abundance within the United States for this species. One California Gnatcatcher was detected during focused protocol surveys of the project site. The report on the U.S. Fish and Wildlife Service protocol surveys is included in this report (Appendix E). The CNDDB reports a pair of gnatcatchers observed on the site in March and April of 1996.

The **Burrowing Owl** *Athene cunicularia* is likely the most endangered bird species currently inhabiting San Diego County. It's distribution is extremely limited, with the largest local population occurring on North Island Naval Air Station in Coronado. The species has declined dramatically in the County in the last 20 years. This species is colonial and highly is dependent on burrows created by ground squirrels. It is a conspicuous species, and could be readily detected by site surveys. No Burrowing owls, and no signs of Burrowing Owls, were detected during the site survey or are considered likely to occur due to absence of suitable habitat. No impacts to this species are anticipated as a result of site development.

The **Rufous-crowned Sparrow** *Aimophila ruficeps canescens* is a state species of special concern and a federal special concern species. This species generally occurs in coastal lowland Coastal Sage Scrub in Southern California, however, it is known to colonize grasslands adjacent to Coastal Sage Scrub following fire and human disturbance. Habitat loss is the main reason for this species' decline in numbers. Apparently suitable habitat occurs on the project site, but the vast majority of this habitat will be preserved. No Rufous-crowned Sparrows were detected during the site surveys, and significant impacts to this species from this project are thus not anticipated.

Stephens' Kangaroo Rat *Dipodomys stephensi* (SKR) is on the federal endangered and state threatened species lists. Until the last few years, Stephens' Kangaroo Rats were known to occur only in suitable relatively open habitat in northern San Diego and in Riverside Counties. Until relatively recently, the southernmost of the known occupied sites were in the San Luis Rey USGS quadrangle, west of Guajome Lake, south of the San Luis Rey River, and north of

Miracosta College (O'Farrell and Uptain 1989). At the time of the O'Farrell and Uptain studies, there were 132 known sites in the two counties. Since then, more sites have been discovered, but most of these have been in Riverside County. Of note have been three disparate and unexpected populations, the first located near the Ramona airport, the second in flatlands of the upper reaches of the Guejito river valley, and the third at the Fallbrook Airport.

According to O'Farrell and Uptain (1989), "SKR can exist in extremely linear configurations and is capable of surviving along dirt roads in marginal and, in some cases, unsuitable habitat. This widespread trace occurrence is ideal for rapid colonization of areas that achieve the appropriate seral stage. Such an intermediate seral grassland will be colonized by SKR, but the eventual succession to shrubs would render the habitat no longer optimal or even suitable for SKR."

SKR prefer open, drier, and well-drained areas with adequate burrow and seed food supplies. The project site does not contain areas of open grassland, and the steep nature and dense vegetation of the site is not typical of known SKR occupied locales. A close examination of the site for signs of SKR inhabitation and habitat (characteristic burrow entrances, runways, and scats) was made during the site visits, and no such signs were detected. Further field effort to search for or live trap SKRs on the project site would be unwarranted. Considering all of the above, impacts to this species from this project are not anticipated.

No other sensitive animal species are considered likely to occur on the project site.

1.4.7 Wetlands/Jurisdictional Waters

The County of San Diego often requires that wetland surveys be completed using the wetlands definition within the County's Resource Protection Ordinance (RPO).

The RPO [§ 86.602 (q)(1)] defines wetlands;

> "Lands having one or more of the following attributes are "wetlands":
>
> (aa). At least periodically, the land supports predominantly hydrophytes (plants whose habitat is water or very wet places);
> (bb). The substratum is predominantly undrained hydric soil; or
> (cc). An ephemeral or perennial stream is present, whose substratum is predominately non-soil and such lands contribute substantially to the biological functions or values of wetlands in the drainage system.

Other pertinent definitions from the RPO include:

> Mature Riparian Woodland - A grouping of sycamores, cottonwoods and/or oak trees having substantial biological value, where at least ten of the trees have a diameter of six inches or greater.

> Riparian Habitat - An environment associated with the banks and other land adjacent to freshwater bodies, rivers, streams, creeks, estuaries, and surface-emergent aquifers (such as springs, seeps, and oases). Riparian habitat is characterized by plant and animal communities which require high soil moisture conditions maintained by transported freshwater in excess of that otherwise available through local precipitation.

Although there are several dry, shallow drainages on the site, none contain the components necessary to be designated as RPO wetlands. In addition, the site does not contain areas that meet the California Department of Fish and Game or U.S. Army Corps of Engineers definition of a wetland or Waters of the United States. No impacts to wetlands will result from project implementation.

1.4.8 Habitat Connectivity and Wildlife Corridors

A wildlife corridor can be defined as a linear landscape feature allowing animal movement between two larger patches of habitat. Connections between extensive areas of open space are integral to maintain regional biodiversity and population viability. In the absence of corridors, habitats become isolated islands surrounded by development. Fragmented habitats support significantly lower numbers of species and increase the likelihood of local extinction for select species when they are restricted to small isolated areas of habitat. Areas that serve as wildlife movement corridors are considered biologically sensitive.

Wildlife corridors can be defined in two categories: regional wildlife corridors and local corridors. Regional corridors link large sections of undeveloped land and serve to maintain genetic diversity among wide-ranging populations. Local corridors permit movement between smaller patches of habitat. These linkages effectively allow a series of small, connected patches to function as a larger block of habitat and perhaps result in the occurrence of higher species diversity or numbers of individuals than would otherwise occur in isolation. Target species for wildlife corridor assessment typically include species such as bobcat, mountain lion, and mule deer.

To assess the function and value of a particular site as a wildlife corridor, it is necessary to determine what areas of larger habitats it connects, and to examine the quality of the corridor as it passes through a variety of settings. High quality corridors connect extensive areas of native habitat, and are not degraded to the point where free movement of wildlife is significantly constrained. Typically, high quality corridors consist of an unbroken stretch of undisturbed native habitat.

South of the project site, Moosa Canyon/Creek provides an east/west riparian corridor that will be unaffected by project implementation. The project site may serve as a minor linear north-south wildlife movement corridor, but analysis of Google Earth™ imagery shows that north/south wildlife move is severely constrained by long-established development along Interstate 15. Along Interstate 15, such corridors are fragmented but still may be important for connectivity. Development of the site as proposed will allow north/south movement through native habitats, and will not impede movement, so significant impacts to wildlife corridors are anticipated.

1.4.9 Wildlife Nursery Sites, Large Mammals and Raptor Foraging

Native Wildlife Nursery Sites, which are considered sensitive resources that require protection, are defined in the County of San Diego Guidelines for Determining Significance - Biological Resources as "sites where wildlife concentrate for hatching and/or raising young, such as rookeries, spawning areas, and bat colonies". Features such as individual raptor or woodrat nests do constitute places where wildlife *concentrate*, thus they do not meet this definition and are therefore not considered Native Wildlife Nursery Sites. No Native Wildlife Nursery Sites occur on the site or will be impacted by project implementation.

Large mammals, such as mule deer *Odocoileus hemionus* and mountain lion *Felis concolor* prefer large unfragmented natural areas that offer extensive adequate forage or hunting opportunities as well as the opportunity for movement across long distances. Because the project site is situated within a relatively high density area with extensive agriculture, residential development, and significant transportation infrastructure (Interstate 15), and is isolated from larger natural habitat areas, the project site is generally unsuitable for use by large mammal species.

The CSS and Southern Mixed Chaparral on the site may offer limited opportunities for **Raptor Foraging**, but is unlikely to provide **Nesting Habitat**. The vast majority of potential foraging habitat will not be impacted by project implementation (*i.e.*, it will be preserved) and thus the project will not result in significant impacts to raptor habitat.

1.5 Applicable Regulations

Regulations that apply include the federal Endangered Species Act (ESA), CDFG Code, CEQA, and San Diego County Ordinances, policies, and practices. The CDFG Code regulates species listed as threatened or endangered under the California Endangered Species Act (CESA). Areas enrolled in the NCCP but without adopted NCCP Plans are subject to the state's NCCP Guidelines. The USFWS takes jurisdiction over species listed as threatened or endangered under the ESA.

Development of the site as currently proposed will require issuance of a Habitat Loss Permit (HLP). The project will have to comply with CEQA and various County regulations.

2.0 PROJECT EFFECTS

This section describes potential impacts associated with the proposed Hefner-Brown project. Impacts are described based on the plans for the project, including the fire fuel management requirements. Direct impacts occur when biological resources are altered or destroyed during the course of, or as a result of, site development. Examples of such impacts include removal or grading of vegetation, filling wetland habitats, or severing or physically restricting the width of wildlife corridors. Other direct impacts may include loss of foraging or nesting habitat and loss of individual species as a result of habitat clearing. Permanent impacts may result in irreversible damage to biological resources. Temporary impacts are interim changes in the local environment due to clearing or construction and would not extend beyond project-associated activities.

2.1 Guidelines for the Determination of Significance

The California Environmental Quality Act (CEQA) Guidelines define "significant effect on the environment" as a "substantial, or potentially substantial adverse change in the environment." The CEQA Guidelines further indicate that there may be a significant effect on biological resources if the project will:

A. Substantially affect an endangered, rare or threatened species of animal or plant or the habitat of the species.

B. Interfere substantially with the movement of any resident or migratory fish or wildlife species to the extent that it adversely affects the population dynamics of the species.

C. Substantially diminish habitat for fish, wildlife, or plants.

In addition, a significant impact would occur if the project would:

- Adversely affect a state or federal listed species
- Adversely affect a County sensitive animal species or its habitat
- Adversely affect a Group A or B County sensitive plant species
- Impact raptor foraging habitat (*i.e.*, grassland)
- Conflict with long-term regional or subregional conservation goals

2.2 Project Impacts

2.2.1 Direct Impacts

As currently proposed, direct impacts from project implementation will result in the loss of 7.8 acres of Coastal Sage Scrub and 1.4 acres of Southern Mixed Chaparral (Table 1).

Table 1. Existing, Impacted, and Preserved Vegetation Communities on the Project Site

PLANT COMMUNITY	ACREAGE ON-SITE	IMPACTED ACREAGE ON-SITE	IMPACT NEUTRAL *	ACREAGE PRESERVED ON-SITE	TOTAL MITIGATION REQUIRED (Ratio)	ON-SITE MITIGATION	OFF-SITE MITIGATION
DIEGAN COASTAL SAGE SCRUB	45.2	7.8	2.3	35.1	23.4 (3:1)	23.4	0
SOUTHERN MIXED CHAPARRAL	4.0	1.4	1.1	1.5	0.7 (0.5:1)	0.7	0
ORCHARD & VINEYARD	2.1	N/A	N/A	N/A	N/A	N/A	N/A
URBAN / DEVELOPED	6.6	N/A	N/A	N/A	N/A	N/A	N/A
TOTAL	57.9	9.2	3.4	36.6	24.1	24.1	0

*Includes areas within existing easements and existing roadway fire clearing requirement zones.

Although a sensitive species (California Gnatcatcher) was detected on-site, development or impacts will not occur in the area where it was observed. In addition, placement of more than half of the site (which is nearly twice the mitigation requirement) into a Biological Open Space Easement will reduce impacts to a level below significant.

No sensitive plant species were detected on the project site, and there are no anticipated significant direct impacts to other sensitive animal species.

No off-site impacts to sensitive habitats or species will result from implementation of this project, including impacts from mandated fire abatement requirements.

2.2.2 Indirect Impacts

There is the potential for indirect impacts to occur as a result of site development. The areas where such indirect impacts have the potential to occur could extend from the development edge into off-site habitat due to such activities as excessive irrigation, vegetation trampling outside developed areas, and introduction of non-native species (*e.g.*, argentine ants or non-native invasive plant species). These indirect impacts are referred to as “edge effects.” There is the potential for indirect impacts on animals as a result of an increase in noise and dust during development and from vehicle use. These indirect impacts are considered unavoidable due to the size of the development, proposed land uses, and existing surrounding land uses. Because many of these edge effects already exist at the site, the incremental addition to indirect impacts is considered low.

The potential for increased sediment load to the drainages associated with clearing and grading is considered adverse, but can be avoided by use of Best Management Practices (BMPs) to minimize sedimentation.

2.2.3 Cumulative Impacts

Cumulative impacts consider the potential regional effects of a project and how a project may affect an ecosystem or one of its members beyond the project limits and on a regional scale. Section 15064 of the State CEQA Guidelines governs the determination of significant environmental impacts caused by a project. The evaluation of a project's cumulative impacts is discussed in Section 15064(h) of the CEQA Guidelines. Cumulative impacts must be discussed when project impacts, although individually limited, may be cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects affecting the same resource (CEQA Guidelines §15064(h)(1)).

A lead agency may determine in an initial study that "a project's contribution to a significant cumulative impact will be rendered less than cumulatively considerable and thus is not significant". When a project might contribute to a significant cumulative impact, but the contribution will be rendered less than cumulatively considerable through mitigation measures set forth in a mitigated negative declaration, the initial study shall briefly indicate and explain how the contribution has been rendered less than "cumulatively considerable" (CEQA Guidelines §15064(h)(2)). The mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable (CEQA Guidelines §15064 (h)(4)).

To assess potential cumulative impacts for this project, several factors were considered. First, the project site is located within a proposed Pre-Approved Mitigation Area (PAMA), suggesting that in the regional context, it is an area slated for long-term preservation. The area also serves as a minor regional wildlife corridor, so preservation of this facet of the site is highly desirable. Preservation of habitat on-site will ultimately lead to assembly of a regional preserve system consisting of core habitat areas and the linkages that connect them, including habitat that can support candidate, sensitive, or special status species.

In the absence of adequate mitigation, the Hefner-Brown project would have the potential to significantly degrade the quality of the environment. Other effects that would be considered cumulatively considerable would include substantial reduction the habitat of a fish or wildlife species that cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or significantly reduce the number or restrict the range of a rare or endangered plant or animal species. None of these other effects apply to the Hefner-Brown project.

In addition, similar projects in the vicinity (I15 Corridor from Mt. Meadow Road north to East Mission Road in Fallbrook) that have either been approved, are in process, or were in process but were withdrawn were examined to assess their actual or potential contributions to cumulative impacts. Projects within this area encompass most of the projects sharing similar existing land uses and habitat types. The projects are:

Open Projects

TM 5113 - If approved as proposed, this project would result in the loss of 14.2 acres of Chamise Chaparral. Impacts would be mitigated offsite, reducing direct, indirect, and cumulative impacts to a level below significant.

TM 5276 - If approved as proposed, this project will have no direct or indirect impacts to sensitive resources, and no resulting contribution to cumulative impacts in the region.

TM 5346 - If approved as proposed, this project would result in the loss of 0.64 acres of Coastal Sage Scrub. Impacts would be mitigated offsite, reducing direct, indirect, and cumulative impacts to a level below significant.

TM 5492 - If approved as proposed, this project would result in the loss of 20 acres of Coastal Sage Scrub, 0.82 acres of Coast Live Oak Riparian Forest, 0.66 acres of Southern Willow Scrub, 0.04 acres of Southern Cottonwood Willow Riparian Forest, 0.48 acres of Disturbed Wetland, 0.33 acres of Mulefat Scrub, and 10 acres of Non-Native Grassland. Impacts would be mitigated onsite and offsite, reducing direct, indirect, and cumulative impacts to a level below significant.

TM 5514 - If approved as proposed, this project has no direct or indirect impacts to sensitive resources, and no resulting contribution to cumulative impacts in the region.

TPM 20573 - If approved as proposed, this project would result in the loss of 4.25 acres of Southern Mixed Chaparral. Impacts would be mitigated offsite, reducing direct, indirect, and cumulative impacts to a level below significant.

TPM 20799 - If approved as proposed, this project has no direct or indirect impacts to sensitive resources, and no resulting contribution to cumulative impacts in the region.

TPM 21170 - If approved as proposed, this project has no direct or indirect impacts to sensitive resources, and no resulting contribution to cumulative impacts in the region.

MUP 04-042 - If approved as proposed, this project would result in the loss of one acre of Non-Native Grassland, 0.04 acres of Southern Willow Scrub, and 0.08 acres of Non-Vegetated Channel. Impacts would be mitigated on-site and offsite, reducing direct, indirect, and cumulative impacts to a level below significant.

MUP 08-052 - If approved as proposed, this project would result in the loss of 6.0 acres of Non-Native Grassland, 0.1 acres of Coast Live Oak Woodland, and 0.01 acres of Coastal Sage Scrub. Impacts would be mitigated on-site and offsite, reducing direct, indirect, and cumulative impacts to a level below significant.

MUP MOD 70-212-02 - If approved as proposed, this project would result in the loss of 0.8 acres of Southern Coast Live Oak Riparian Forest and 1.25 acres of Coastal Sage Scrub. Impacts would be mitigated offsite, reducing direct, indirect, and cumulative impacts to a level below significant.

MUP MOD 94-019-03 - If approved as proposed, this project has no direct or indirect impacts to sensitive resources, and no resulting contribution to cumulative impacts in the region.

Completed Projects

TPM 20033 - Approved in 1993. This project was deemed by the County to have no direct or indirect impacts to sensitive resources, and no resulting contribution to cumulative impacts in the region.

TPM 21113 - Denied in August 2009.

TM 5465 - Withdrawn in July 2007.

TM 5134 - Approved in January 2006. This project impacted 4.07 acres of Coastal Sage Scrub, 0.02 acres of Southern Willow Scrub, and 0.03 acres of CDF&G wetland. Impacts were mitigated on-site and off-site, direct, indirect, and cumulative impacts to a level below significant.

The proposed project would result in the loss of 9.2 acres of sensitive habitat. These impacts will be fully mitigated on-site beyond the extent required by state and federal laws, and County ordinances and policies. In addition, the project conforms to the NCCP Guidelines: the project's impacts to sensitive habitats and their associated flora and fauna would not have a significant impact on future viability of these species or future NCCP preserve design. As a result, the project does not have significant cumulative impacts.

3.0 MITIGATION MEASURES AND DESIGN CONSIDERATIONS

As noted above, the project will impact two sensitive vegetation communities, and also preserve 36.6 acres of sensitive vegetation communities within a proposed Biological Open Space Easement on-site. The project will result in the loss of 7.8 acres of Coastal Sage Scrub and 1.4 acres of Southern Mixed Chaparral. Mitigation for CSS loss will take place at a 3:1 ratio, resulting in the need for 23.4 acres of comparable habitat. Mitigation for Southern Mixed Chaparral loss will take place at a 0.5:1 ratio, resulting in the need for 0.7 acres of comparable habitat.

Mitigation will occur on-site by the placement of identical sensitive habitats in excess of the mitigation requirement into a Biological Open Space Easement.

Limitations on construction activities during the bird nesting season are recommended to reduce impacts to avian resources. If it is determined by a qualified biologist that no nesting is occurring within 300 feet (for Passerine birds) or 500 feet (for raptors) of construction activity, such activities may proceed with the approval of the Director of DPLU.
Permanent signage is required along the open space easements. Fencing is necessary only in easily accessible areas, as fencing could restrict wild animal movement.

The mitigation measures as proposed will reduce the impacts resulting from project implementation to below a level of significant.

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5.0 LIST OF PREPARERS

William T. Everett conducted all field work for this report. Qualifications for Everett are provided in Appendix F. William T. Everett prepared this report. Calculation of vegetation community areas, impact areas, and proposed open space areas was done by the project engineer.

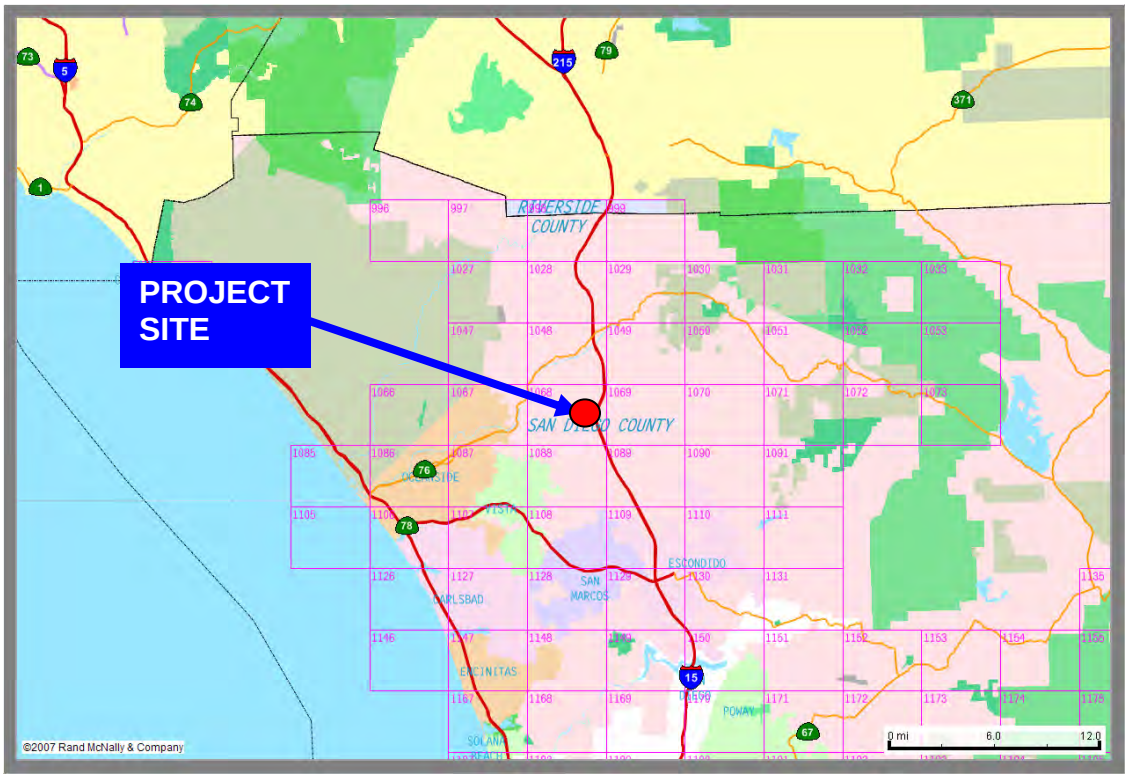


Figure 1. Location of Project site in regional context. Thomas Bros. Map page #1068, H3.

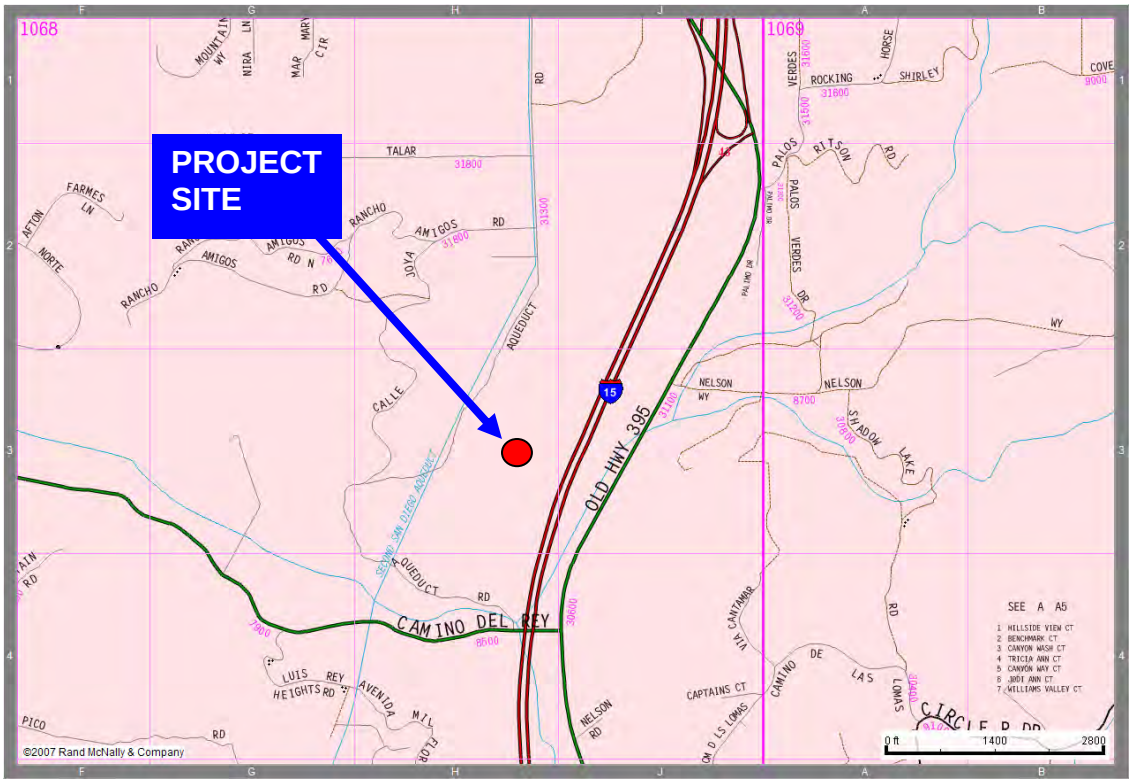


Figure 2. Detail location map of Project site. Thomas Bros. Map page #1068, H3.

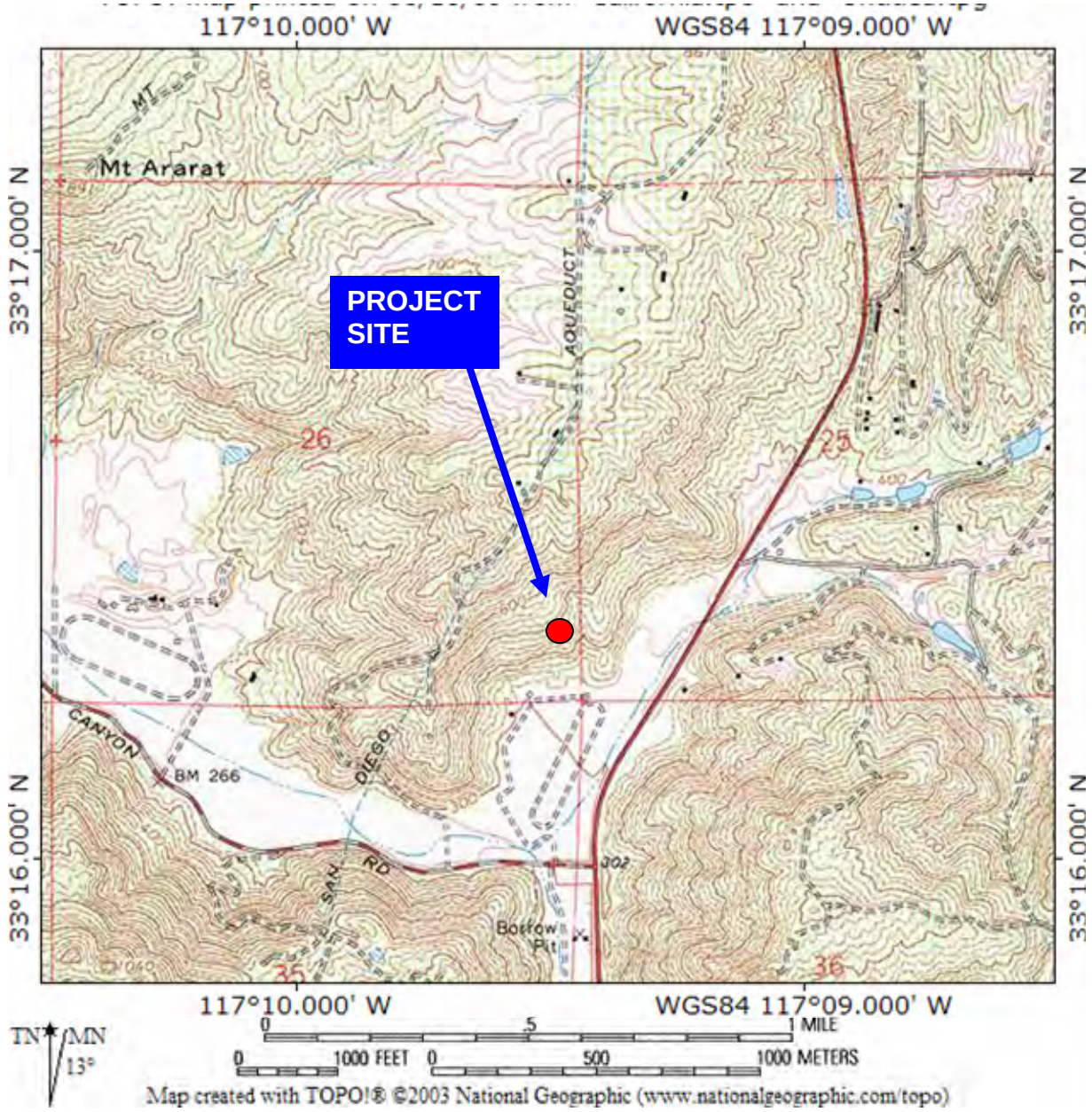


Figure 3. Topographical map showing project site location. Taken from USGS Bonsall 7.5 minute series quadrangle.

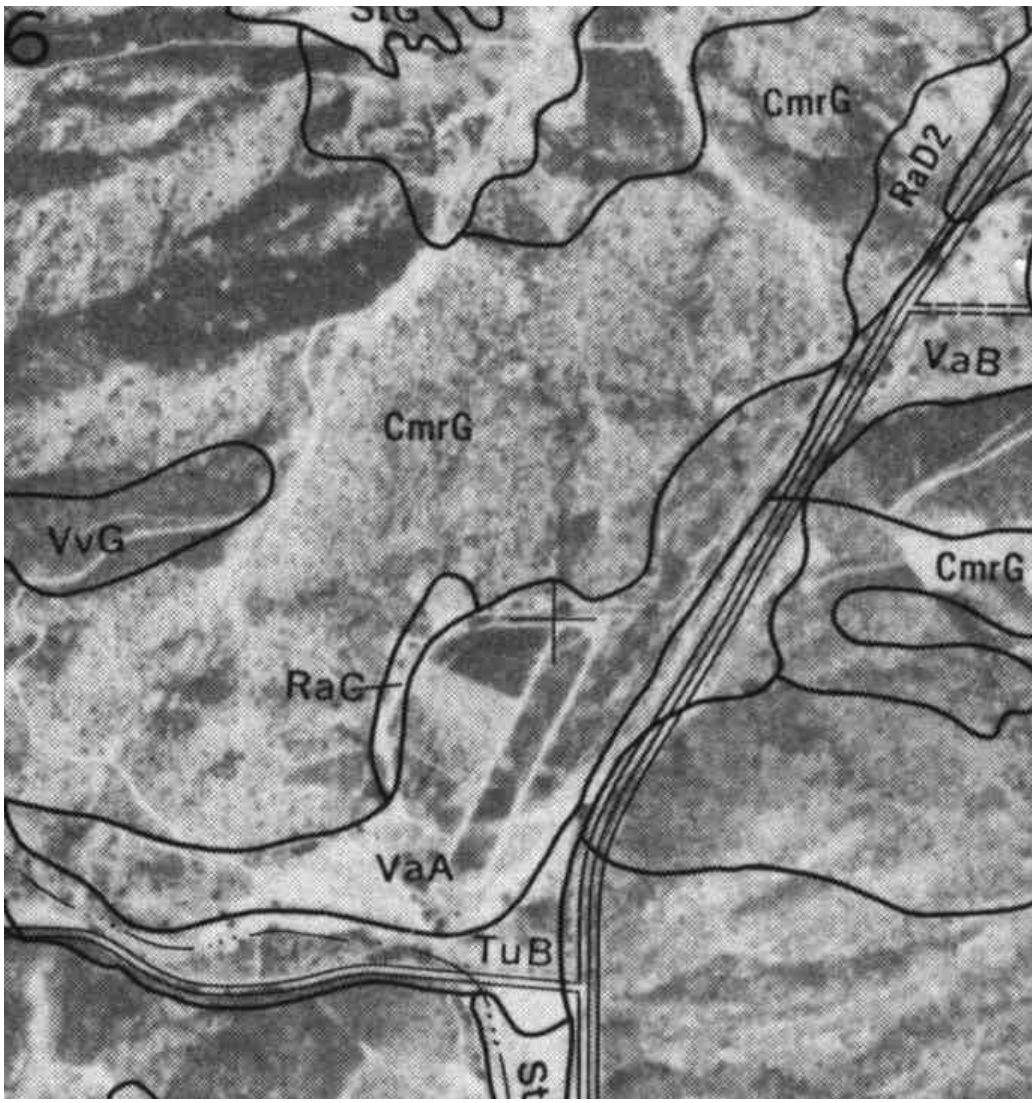


Figure 4. Soils map of the vicinity of the project site.

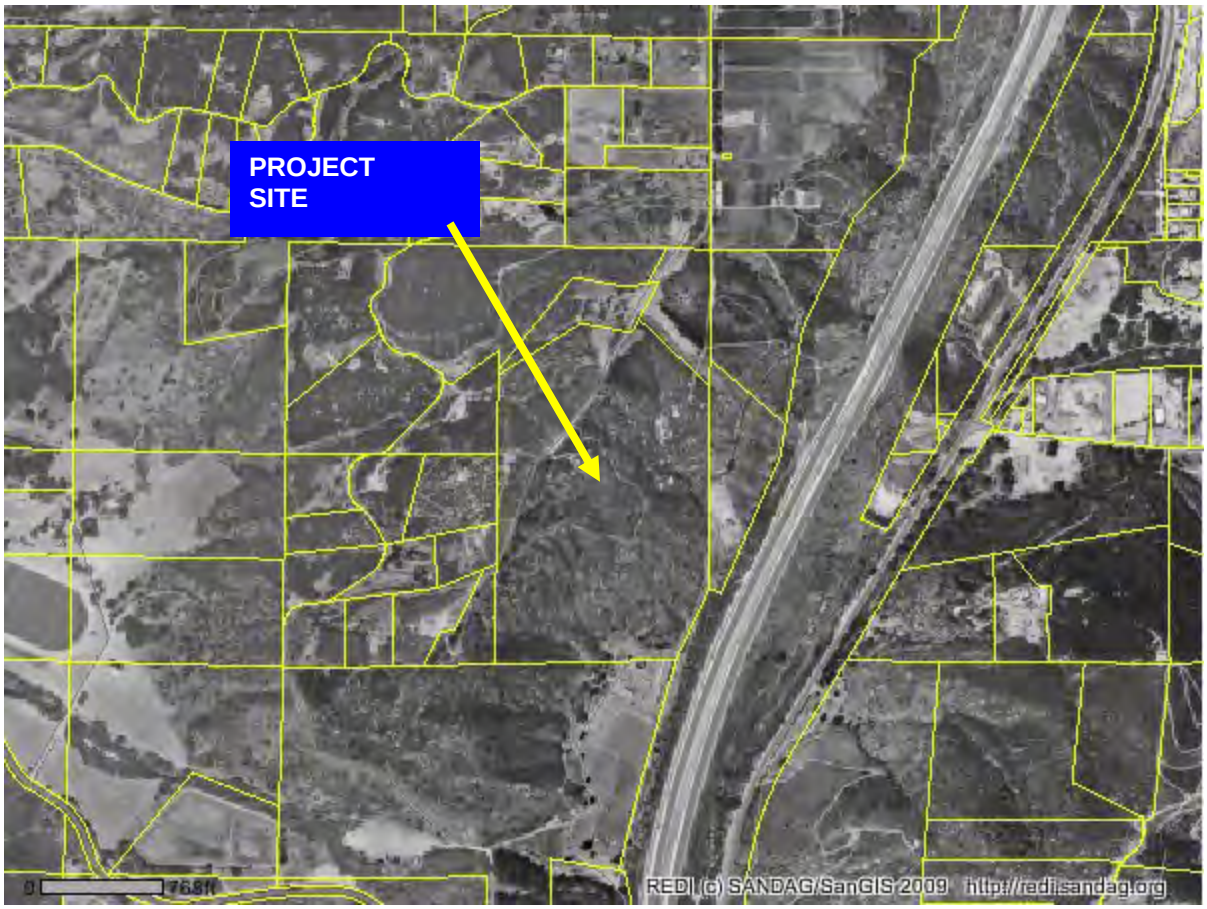


Figure 5. Satellite image of general vicinity of project, showing the subject parcel.

Figure 6. Satellite image of the parcel. Dotted lines indicate route projected. Red triangle indicates location of sighting of a single California Gnatcatcher.

APPENDIX A

PLANT SPECIES OBSERVED ON THE PROJECT SITE

Family	Scientific Name	Common Name
Dicotyledoneae		
Anacardiaceae - Sumac Family		
	Malosma laurina	Laurel Sumac
	Rhus integrifolia	Lemonadeberry
	Schinus terebinthifolius	Brazilian Pepper Tree
Apiaceae (Umbelliferae) - Carrot Family		
	Foeniculum vulgare	Sweet Fennel
Apocynaceae - Dogbane [Milkweed] Family		
	Scarcostemma cynonchoides ssp. *hartwegii*	Climbing Milkweed
Asteraceae (Compositae) - Sunflower Family		
	Achillea millefolium var. *pacifica*	Yarrow
	Artemisia californica	California Sagebrush
	Baccharis pilularis	Coyote Brush
	Baccharis salicifolia	Mule Fat
	Centaurea melitensis	Tocalote
	Conyza bonariensis	Conyza
	Conyza canadensis	Horseweed
	Eriophyllum confertiflorum	Flat-topped Golden Yarrow
	Gnaphalium bicolor	Cudweed
	Gnaphalium californicum	California Everlasting
	Hazardia squarrosa var. *grindelioides*	Saw-toothed Goldenbush
	Heterotheca grandiflora	Telegraph Weed
	Lessingia filaginifolia var. *filaginifolia*	California Aster
	Stephanomeria diegensis	San Diego Wreath Plant

Boraginaceae - Borage Family	
Plagiobothrys sp.	Popcorn Flower
Brassicaceae (Cruciferae) - Mustard Family	
Brassica sp.	Mustard
Caprifoliaceae - Honeysuckle Family	
Sambucus mexicana	Elderberry
Chenopodiaceae - Goosefoot Family	
Chenopodium sp.	Pigweed
Chenopodium californicum	California Pigweed
Salsola tragus	Russian Thistle
Crassulaceae - Stonecrop Family	
Dudleya pulverulenta	Live-Forever
Cucurbitaceae - Gourd Family	
Marah macrocarpus	Wild Cucumber
Cuscutaceae - Dodder Family	
Cuscuta sp.	Witch's Hair, Dodder
Ericaceae - Heath Family	
Xylococcus bicolor	Mission Manzanita
Euphorbiaceae -Spurge Family	
Chamaesyce albomarginata	Rattlesnake weed
Fabaceae (Leguminosae) - Pea Family	
Lotus scoparius ssp. *scoparius*	Deerweed
Fagaceae - Oak Family	
Quercus agrifolia var. *agrifolia*	Coast Live Oak
Quercus berberidifolia	Scrub Oak

Geraniaceae - Geranium Family	
Erodium cicutarium	Red-stem Filaree
Lamiaceae (Labiatae) - Mint Family	
Marrubium vulgare	Horehound
Salvia apiana	White Sage
Salvia mellifera	Black Sage
Malvaceae - Mallow Family	
Malacothamnus sp.	Bush Mallow
Sphaeralcea sp.	Apricot Mallow
Polygonaceae - Buckwheat Family	
Eriogonum fasciculatum ssp. *fasciculatum*	California Buckwheat
Ranunculaceae - Crowfoot Family	
Clematis sp.	Virgin's Bower
Rhamnaceae - Buckthorn Family	
Ceanothus tomentosus	Ramona Lilac
Rosaceae - Rose Family	
Adenostoma fasciculatum	Chamise
Prunus ilicifolia	Holly-leaved Cherry
Rubiaceae - Madder Family	
Galium angustifolium	Narrowleaf Bedstraw
Scrophulariaceae-Figwort Family	
Mimulus aurantiacus	Red Bush Monkey-flower
Scrophularia californica var. *floribunda*	Coast Figwort, Bee Plant
Solanaceae - Nightshade Family	
Datura discolor	Jimson Weed
Nicotiana glauca	Tree Tobacco

Monocotyledoneae

Agavaceae - Agave Family

Yucca whipplei ssp. *whipplei*	Our Lord's Candle
Yucca schidigera	Spanish Bayonet

Poaceae (Gramineae) - Grass Family

Arundo donax	Giant Reed
Avena sp.	Wild Oats
Avena barbata	Slender Wild Oat
Bromus carinatus	California Brome
Bromus diandrus	Ripgut Grass
Bromus hordeaceus	Soft Chess
Bromus madritensis ssp. *rubens*	Red Brome
Hordeum sp.	Wild Barley
Pennisetum setaceum	Fountain Grass

APPENDIX B

WILDLIFE SPECIES OBSERVED OR DETECTED ON THE PROJECT SITE

BIRDS

Red-tailed Hawk	*Buteo jamaicensis*
Turkey Vulture	***Cathartes aura***
Mourning Dove	*Zenaida macroura*
Anna's Hummingbird	*Calypte anna*
California Quail	*Callipepla californica*
Nuttall's Woodpecker	*Picoides nuttallii*
Western Scrub-Jay	*Aphelocoma californica*
American Crow	*Corvus brachyrhynchos*
California Gnatcatcher	***Polioptila californica***
Wrentit	*Chamaea fasciata*
Bushtit	*Psaltriparus minimus*
Northern Mockingbird	*Mimus polyglottos*
Phainopepla	*Phainopepla nitrens*
California Towhee	*Pipilo crissalis*
Lesser Goldfinch	*Carduelis psaltria*
House Finch	*Carpodacus mexicanus*

MAMMALS

Brush Rabbit *Sylvilagus bachmani cinerascens*	Scats
Dusky-footed Woodrat *Neotoma fuscipes macrotis*	Nests
California Ground Squirrel *Spermophilus beecheyi*	Observed
Botta's Pocket Gopher *Thomomys bottae*	Burrows

AMPHIBIANS AND REPTILES

Western Fence Lizard
Sceloporus occidentalis

Side-blotched Lizard
Uta stansburiana

APPENDIX C

PHOTOGRAPHS OF THE PROJECT SITE

All photographs taken 2009 by W.T. Everett

PHOTOGRAPH INDEX

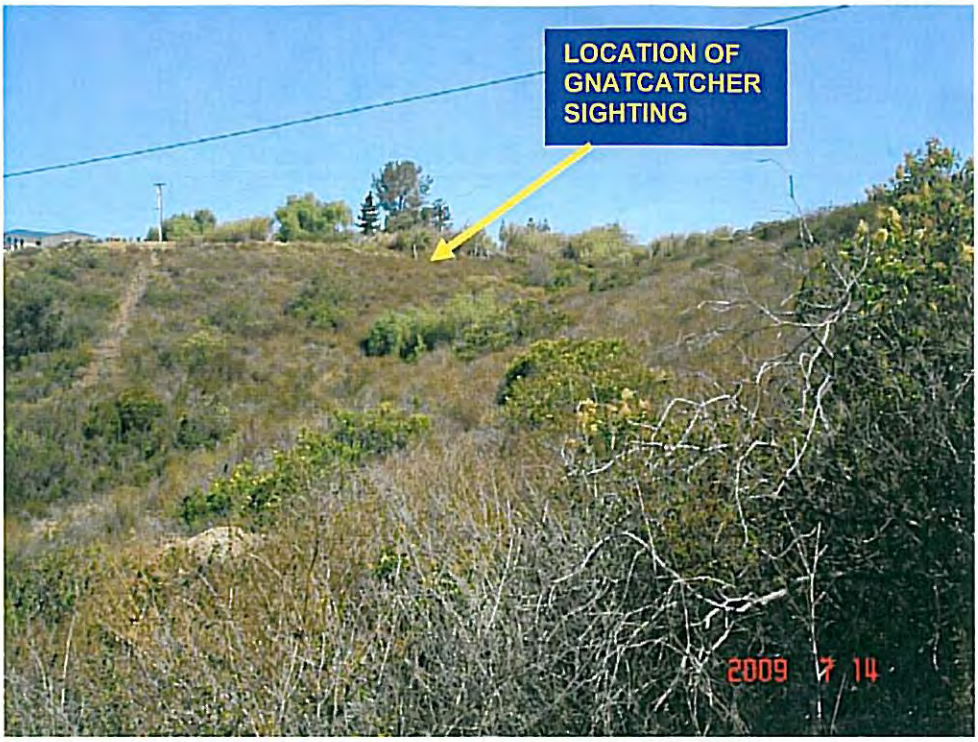
Yellow arrows and numbers indicate the locations and directions from which the following photographs were taken:

Photograph 1. View looking south from north end of site. Interstate 15 on left.

Photograph 2. View looking at existing residence in northwest corner of site.

Photograph 3. View looking north from south end of site.

Photograph 4. View of Southern Mixed Chaparral on western portion of site.



Photograph 5. View looking at CSS in north end of site, location of gnatcatcher sighting.

APPENDIX D

COUNTY LIST OF SENSITIVE SPECIES WITH POTENTIAL TO OCCUR ON THE PROJECT SITE

Legend

Status

1 = Federally Endangered
2 = Federally Threatened
3 = State Endangered
4 = State Threatened
5 = State Rare
6 = MSCP Narrow Endemic
7 = Not Listed
8 = County Sensitive Plant List Designation (A-D)
Ext = Extirpated

Potential to Occur On-site

L = Low
M = Moderate
H = High
U = Unknown (Sufficient data are not available on the status, distribution, abundance, or natural history of the species to make a reliable determination of the probability of occurring on-site)

Note: Species shown in **bold** are those for which Directed Surveys were conducted

Rationale

1 = Would likely have been detected during directed surveys if present
2 = Appropriate suitable habitat not present on-site. Habitat type may be present on-site, but is likely disturbed, fragmented, isolated, small in extent, dominated by edge effects, may not have appropriate soil type, micro habitat conditions, or is otherwise not suitable for use by the sensitive species.
3 = Insufficient natural history information is available to determine is presence is likely

Common Name	Scientific Name	Status	Observed On-Site (Y or N)	Potential to Occur On-site	Habitat Preferences
San Diego thornmint	***Acanthomintha ilicifolia***	**2,3, 8A**	**N**	**L - 1**	**Coastal Sage Scrub, Grassland, Chamise Chaparral, Vernal Pools**

San Diego adolphia	***Adolfia californica***	**7, 8B**	**N**	**L - 1**	**Coastal Sage Scrub, Grassland**
San Diego ambrosia	***Ambrosia pumila***	**1,6, 8A**	**N**	**L - 1**	**Coastal Sage Scrub, Grassland, Riparian, Vernal Pools**
Thread-leaved brodiaea	***Brodiaea filifolia***	**2,3, 8A**	**N**	**L - 2**	**Non-Native Grassland, Vernal Pools**
Orcutt's brodiaea	***Brodiaea orcutti***	**7, 8A**	**N**	**L - 2**	**Grassland, Riparian, Oak Woodland, Chamise Chaparral, Vernal Pools**
Brewer's calandrinia	*Calandrinia breweri*	7, 8C	N	L - 2	Coastal Sage Scrub, Mixed Chaparral
Lewis sun cup	*Camissonia lewisii*	7, 8C	N	L - 2	Beach Bluffs
Small flowered morning glory	*Convolvulus simulans*	7, 8C	N	L - 2	Coastal Sage Scrub, Grassland
Wart stemmed ceanothus	***Ceanothus verrucosus***	**7, 8B**	**N**	**L - 1**	**Mixed Chaparral, Chamise Chaparral**
Prostrate spineflower	***Chorizanthe procumbens***	**7, 8D**	**N**	**L - 2**	**Coastal Sage Scrub, Mixed Chaparral, Chamise Chaparral**
Summer holly	***Comarostaphylos diversifolia diversifolia***	**7, 8A**	**N**	**L - 1**	**Mixed Chaparral, Closed Cone Forest**
Western dichondra	*Dichondra occidentalis*	7, 8D	N	L - 2	Coastal Sage Scrub, Mixed Chaparral, Chamise Chaparral
Sticky dudleya	***Dudleya viscida***	**7, 8A**	**N**	**L - 1**	**Coastal Sage Scrub, Mixed Chaparral, Chamise Chaparral**
Palmer's goldenbush	***Ericameria palmeri palmeri***	**7, 8B**	**N**	**L - 1**	**Coastal Sage Scrub, Riparian**
Graceful tarplant	*Holocarpha virgata elongata*	7, 8D	N	L - 2	Grassland
Robinson pepper grass	***Lepidium virginicum robinsonii***	**7, 8A**	**N**	**L - 2**	**Grassland**

Small flowered microseris	*Microseris douglasii platycarpha*	7, 8D	N	L - 2	Grassland
Spreading navarretia	***Navarretia fossalis***	**2, 8A**	**N**	**L - 2**	**Coastal Sage Scrub, Grassland, Chamise Chaparral, Vernal Pools**
Cooper's rein orchid	*Piperia cooperi*	7, 8D	N	L - 2	Grassland, Chamise Chaparral
Mesa club moss	*Selaginella cinerascens*	7, 8D	N	L -2	Coastal Sage Scrub, Mixed Chaparral, Chamise Chaparral
Monarch butterfly	*Danaus plexippus*	7	N	L - 2	Grassland, Oak Woodland, Montane Meadow
Hermes copper	***Lycaena hermes***	**7**	**N**	**L - 2**	**Coastal Sage Scrub, Mixed Chaparral, Chamise Chaparral**
Silvery legless lizard	*Anniella pulchra pulchra*	7	N	L - 2	Coastal Sage Scrub, Grassland, Riparian, Coastal or Desert Dune
San Diego banded gecko	***Coleonyx variegatus abbottii***	**7**	**N**	**L - 2**	**Coastal Sage Scrub, Grassland, Chamise Chaparral**
Western spadefoot toad	*Scaphiopus hammondii*	7	N	L - 2	Coastal Sage Scrub, Mixed Chaparral, Grassland, Riparian, Oak Woodland, Chamise Chaparral, Freshwater Marsh, Vernal Pools
San Diego horned lizard	*Phrynosoma coronatum blainvillei*	7	N	L - 2	Coastal Sage Scrub, Mixed Chaparral, Grassland, Riparian, Chamise Chaparral, Mixed Conifer
Coastal rosy boa	*Charina trivirgata roseoffusca*	7	N	L - 2	Coastal Sage Scrub, Mixed Chaparral, Oak Woodland, Chamise Chaparral

Orange-throated whiptail	***Cnemidophorus hyperythrus***	**7**	**N**	**L - 2**	**Coastal Sage Scrub, Mixed Chaparral, Grassland, Riparian, Chamise Chaparral**
Coastal western whiptail	*Cnemidophorus tigris multiscutatis*	7	N	L - 2	Mixed Chaparral, Riparian, Oak Woodland, Chamise Chaparral
San Diego ringneck snake	*Diadophis punctatus similis*	7	N	L - 2	Coastal Sage Scrub, Mixed Chaparral, Riparian, Oak Woodland, Chamise Chaparral, Mixed Conifer, Closed Cone Forest
Northern red diamond rattlesnake	*Crotalus ruber ruber*	7	N	L - 2	Coastal Sage Scrub, Mixed Chaparral Chamise Chaparral, Pinon Juniper, Desert Scrub
Coast patch-nosed snake	*Salvadora hexalepis virgultea*	7	N	L - 2	Coastal Sage Scrub, Mixed Chaparral, Chamise Chaparral, Freshwater Marsh
Coronado skink	*Eumeces skiltonianius interparietalis*	7	N	L - 2	Coastal Sage Scrub, Grassland, Riparian, Oak Woodland, Chamise Chaparral, Mixed Conifer, Closed Cone Forest, Pinon-Juniper, Freshwater Marsh
California Leaf-nosed Bat	*Macrotus californicus*	7	N	U - 3	Coastal Sage Scrub, Mixed Chaparral, Riparian, Desert Scrub, Desert Wash

Yuma Myotis	*Myotis yumanensis*	7	N	U - 3	Coastal Sage Scrub, Mixed Chaparral, Grassland, Riparian, Oak Woodland, Chamise Chaparral, Mixed Conifer, Closed Cone Forest, Pinon-Juniper, Freshwater Marsh, Salt or Alkali Marsh, Vernal Pools, Montane Meadow, Lakes and Bays
Small-footed Myotis	*Myotis ciliolabrum*	7	N	L - 2	Mixed Chaparral, Riparian, Oak Woodland, Chamise Chaparral, Mixed Conifer, Closed Cone Forest, Pinon-Juniper, Desert Wash, Montane Meadow
Mexican Long-tongued Bat	*Choeronycteris mexicana*	7	N	L - 2	Coastal Sage Scrub, Desert Scrub, Desert Wash
Townsend's Big-eared Bat	*Corynorhinus townsendii*	7	N	L - 2	Mixed Chaparral, Grassland, Riparian, Oak Woodland, Chamise Chaparral, Mixed Conifer, Closed Cone Forest, Pinon-Juniper, Desert Scrub, Desert Wash, Montane Meadow

Pocketed free-tailed Bat	*Nyctinomops femorosaccus*	7	N	U - 2	Coastal Sage Scrub, Mixed Chaparral, Grassland, Riparian, Oak Woodland, Chamise Chaparral, Mixed Conifer, Closed Cone Forest, Pinon-Juniper, Freshwater Marsh, Desert Scrub, Desert Wash, Salt or Alkali Marsh, Vernal Pools, Montane Meadow, Lakes and Bays
Pallid Bat	*Antrozous pallidus*	7	N	U - 2	Coastal Sage Scrub, Mixed Chaparral, Grassland, Riparian, Oak Woodland, Chamise Chaparral, Mixed Conifer, Closed Cone Forest, Pinon-Juniper, Desert Scrub, Desert Wash, Montane Meadow
Big Free-tailed Bat	*Nyctinomops macrotis*	7	N	U - 2	Coastal Sage Scrub, Mixed Chaparral, Grassland, Riparian, Oak Woodland, Chamise Chaparral, Mixed Conifer, Closed Cone Forest, Pinon-Juniper, Freshwater Marsh, Desert Scrub, Desert Wash, Salt or Alkali Marsh, Vernal Pools, Montane Meadow, Lakes and Bays

Greater Western Mastiff Bat	*Eumops perotis californicus*	7	N	L - 2	Coastal Sage Scrub, Mixed Chaparral, Grassland, Riparian, Oak Woodland, Chamise Chaparral, Mixed Conifer, Closed Cone Forest, Pinon-Juniper, Freshwater Marsh, Desert Scrub, Desert Wash, Salt or Alkali Marsh, Vernal Pools, Montane Meadow, Lakes and Bays
Dulzura California Pocket Mouse	*Chaetodipus californicus femoralis*	7	N	L - 2	Coastal Sage Scrub, Mixed Chaparral, Grassland, Oak Woodland, Chamise Chaparral, Mixed Conifer
Northwestern San Diego Pocket Mouse	*Chaetodipus fallax fallax*	7	N	L - 2	Coastal Sage Scrub, Mixed Chaparral, Grassland, Chamise Chaparral, Desert Scrub, Desert Wash
Stephen's Kangaroo Rat	***Dipodomys stephensi***	**1, 4**	**N**	**L - 2**	**Coastal Sage Scrub, Grassland**
Southern Grasshopper Mouse	*Onychomys torridus Ramona*	7	N	L - 2	Coastal Sage Scrub, Mixed Chaparral, Grassland, Chamise Chaparral
San Diego Desert Woodrat	*Neotoma lepida intermedia*	7	N	L - 2	Coastal Sage Scrub, Riparian, Oak Woodland, Chamise Chaparral
San Diego Black-tailed Jackrabbit	*Lepus californicus bennettii*	7	N	L - 2	Coastal Sage Scrub, Mixed Chaparral, Grassland, Oak Woodland, Chamise Chaparral, Mixed Conifer, Closed Cone Forest

Mountain Lion	*Felis concolor*	7	N	L - 2	Coastal Sage Scrub, Mixed Chaparral, Riparian, Oak Woodland, Chamise Chaparral, Mixed Conifer, Closed Cone Forest, Pinon-Juniper, Desert Scrub, Desert Wash, Montane Meadow
American Badger	*Taxidea taxus*	7	N	L - 2	Coastal Sage Scrub, Mixed Chaparral, Grassland, Oak Woodland, Chamise Chaparral, Mixed Conifer, Pinon-Juniper, Desert Scrub, Desert Wash, Montane Meadow
Southern Mule Deer	*Odocoileus hemionus*	7	N	L - 2	Coastal Sage Scrub, Mixed Chaparral, Grassland, Riparian, Oak Woodland, Chamise Chaparral, Mixed Conifer, Closed Cone Forest, Pinon-Juniper, Desert Scrub, Desert Wash, Montane Meadow
Ringtail	*Basariscus astutus*	7	N	L - 2	Mixed Chaparral, Chamise Chaparral
Northern Harrier	***Circus cyaneus hudsonius***	**7**	**N**	**L - 2**	**Grassland, Freshwater Marsh, Salt or Alkali Marsh**
Black-shouldered Kite	***Elanus caeruleus***	**7**	**N**	**L - 2**	**Grassland, Riparian**
Prairie Falcon	***Falco mexicanus***	**7**	**N**	**L - 2**	**Desert Scrub, Desert Wash**
Merlin	*Falco columbarius*	7	N	L - 2	Grassland, Salt or Alkali Marsh

Cooper's Hawk	***Accipiter cooperi***	**7**	**N**	**M**	**Grassland, Riparian, Oak Woodland**
Sharp-shinned Hawk	***Accipter striatus***	**7**	**N**	**L - 2**	**Coastal Sage Scrub, Oak Woodland, Mixed Conifer**
Golden Eagle	***Aquila chrysaetos***	**6**	**N**	**L - 2**	**Coastal Sage Scrub, Mixed Chaparral, Grassland, Oak Woodland, Chamise Chaparral, Mixed Conifer, Closed Cone Forest, Pinon-Juniper**
Great Blue Heron	*Ardea herodias*	7	N	L - 2	Grassland, Freshwater Marsh, Lakes and Bays
Turkey Vulture	***Cathartes aura***	**7**	**Y**	**H**	**Coastal Sage Scrub, Mixed Chaparral, Grassland, Riparian, Oak Woodland, Chamise Chaparral, Mixed Conifer, Closed Cone Forest**
Burrowing Owl	***Athene cunicularia hypugea***	**7**	**N**	**L - 2**	**Coastal Sage Scrub, Grassland, Desert Wash, Coastal or Desert Dune**
California Gull	*Larus californicus*	7	N	L - 2	Lakes and Bays
Loggerhead Shrike	***Lanius ludovicianus***	**7**	**N**	**L - 2**	**Coastal Sage Scrub, Grassland, Riparian, Oak Woodland, Desert Scrub, Desert Wash**

San Diego Cactus Wren	***Campylorhynchus brunneicapillus cousi***	**7**	**N**	**L - 2**	**Coastal Sage Scrub**
California Gnatcatcher	***Polioptila californica***	**2**	**Y**	**H**	**Coastal Sage Scrub**
Tricolored Blackbird	***Agelaius tricolor***	**7**	**N**	**L - 2**	**Grassland, Riparian, Freshwater Marsh**
Horned lark	*Eremophila alpestris actis*	7	N	L - 2	Grassland, Montane Meadow
Rufous-crowned Sparrow	***Aimophila ruficeps canescens***	**7**	**N**	**M**	**Coastal Sage Scrub, Chamise Chaparral**
Grasshopper Sparrow	***Ammodramus savannarum***	**7**	**N**	**L - 2**	**Grassland**
Bell's Sage Sparrow	***Amphispiza belli belli***	**7**	**N**	**L - 2**	**Coastal Sage Scrub, Mixed Chaparral, Chamise Chaparral**

EVERETT AND ASSOCIATES
ENVIRONMENTAL CONSULTANTS
ESTABLISHED IN 1975

POST OFFICE BOX 1085
LA JOLLA, CALIFORNIA 92038

(858) 456-2990 TELEPHONE
(760) 765-3113 FACSIMILE

12 August 2009

APPENDIX E

Ms. Sandy Marquez
Recovery Permit Coordinator
U.S. Fish & Wildlife Service, Carlsbad Field Office
6010 Hidden Valley Road
Carlsbad, CA 92009

Re: Report on the Hefner-Brown Tentative Parcel Map (TPM 21159 Presence/Absence Surveys, Bonsall, San Diego County, California.

Dear Ms. Marquez,

This report presents the results of three focused presence/absence surveys that I recently conducted for the federally threatened Coastal California Gnatcatcher *Polioptila californica californica*. The surveys were conducted within a 57.9 acre parcel (APN 127-110-81) currently in the application process for subdivision.

The California Gnatcatcher is a federal threatened species, a state species of concern, and is a "target species" of the NCCP process. This species is a non-migratory resident whose range covers the coastal plains and foothills of Southern California and northern Baja California. In San Diego County, it is widespread in coastal lowlands below about 2,000 feet elevation and typically occurs in or near Coastal Sage Scrub (CSS). The California Gnatcatcher population is seriously declining due to loss of habitat. Between 85% and 90% of this species' habitat has been lost to urban or agricultural development. It is almost extirpated from Ventura, San Bernadino, and Los Angeles counties. The U.S. population is estimated to be just under 5000 pairs. San Diego County appears to be the center of abundance within the United States for this species.

The survey site is located in the northwest section of San Diego County, between Interstate 15 and Aqueduct Road, just north of Camino Del Rey in the community of Bonsall (Figures 1 and 2). The site is situated between 300 and 850 feet above sea level (Bonsall 7.5 minute series quadrangle, Figure 3). The approximate USGS coordinates of the site are 33°17'N, 117°09W.

SITE CONDITIONS AND VEGETATION COMMUNITIES

The site mostly consists of a steep, east facing slope with relatively undisturbed Diegan Coastal Sage Scrub habitat. There are several rocky outcrops and old dirt roadways on the site, and west of Aqueduct Road is a small area of Southern Mixed Chaparral. An existing single family residence is situated at the extreme north end of the parcel, west of Aqueduct Road. Dominant plant species include laurel sumac *Malosma laurina*, California Buckwheat

Eriogonum fasciculatum ssp. *fasciculatum*, California sagebrush *Artemisia californica*, chamise *Adenostoma fasciculatum*, and deerweed *Lotus scoparius* ssp. *scoparius*.

METHODS

I surveyed the site three times in conformance with current USFWS protocol guidelines. The surveys were conducted under the authority granted to me by USFWS permit # TE-788036. The surveys were conducted by slowly walking routes within the survey area, typically down the middle of the existing roadways (See Figure 5). After stopping, listening, and observing at intervals of approximately 30 meters, taped Coastal California Gnatcatcher vocalizations were played for 30 seconds. After the vocalizations were played, an additional two minutes were spent observing and listening before moving to the next observation site. Weather conditions and time of day were appropriate for the detection of Coastal California Gnatcatchers (Table 1).

TABLE 1
SCHEDULE OF SURVEYS AND CONDITIONS
HEFNER-BROWN PROPERTY

Date	Time (hours)	Temperature (°F)	Wind Speed (mph)	Cloud Cover (%)
7/07/09	0730-1130	66-86	3-3 NW	0
7/14/09	0815-1145	63-76	0-3 NE	0
7/28/09	0730-1130	64-77	0-3 NE	10

RESULTS

A single California Gnatcatcher was detected during the 14 July focused survey. The location is shown on Figure 5. This location is essentially the same as found on a previous survey as reported in the California Natural Diversity Data Base (CNDDB). High noise levels from the adjacent freeway make conducting surveys difficult, but I am confident these surveys accurately represent the status of the species on the site.

Thank you very much for the opportunity to conduct this work and prepare this report. Please contact me if you need any additional information or clarification.

Thank you,

William T. Everett
Certified Biological Consultant

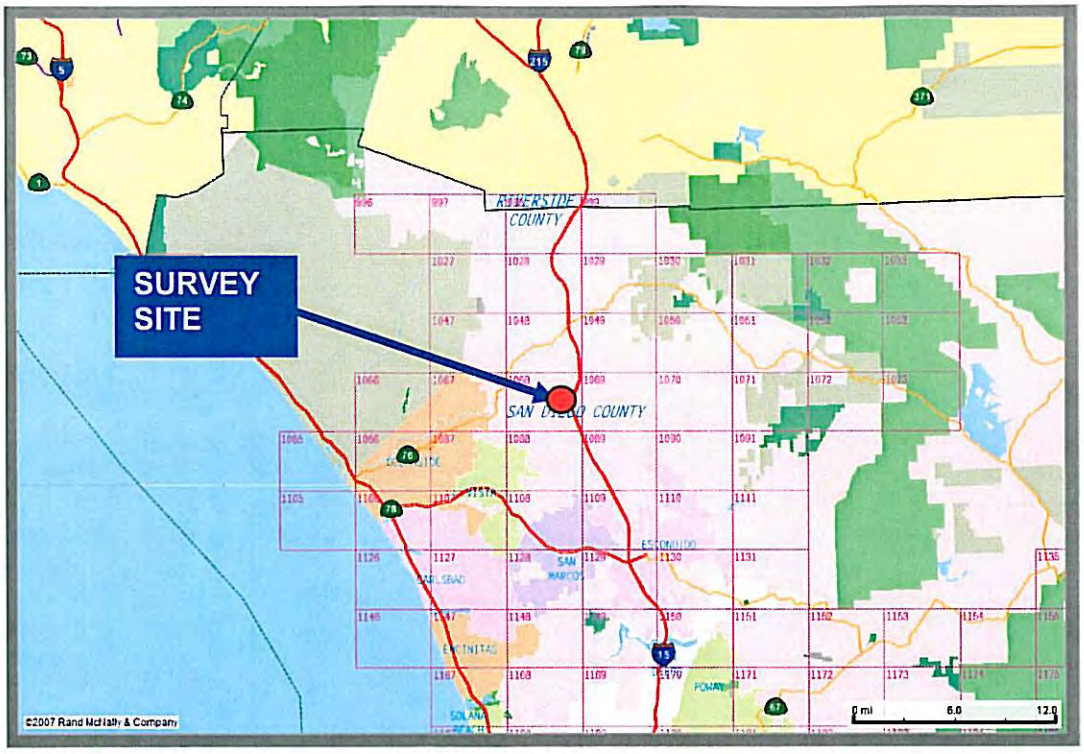


Figure 1. Location of Survey site in regional context. Thomas Bros. Map page #1068, H3.

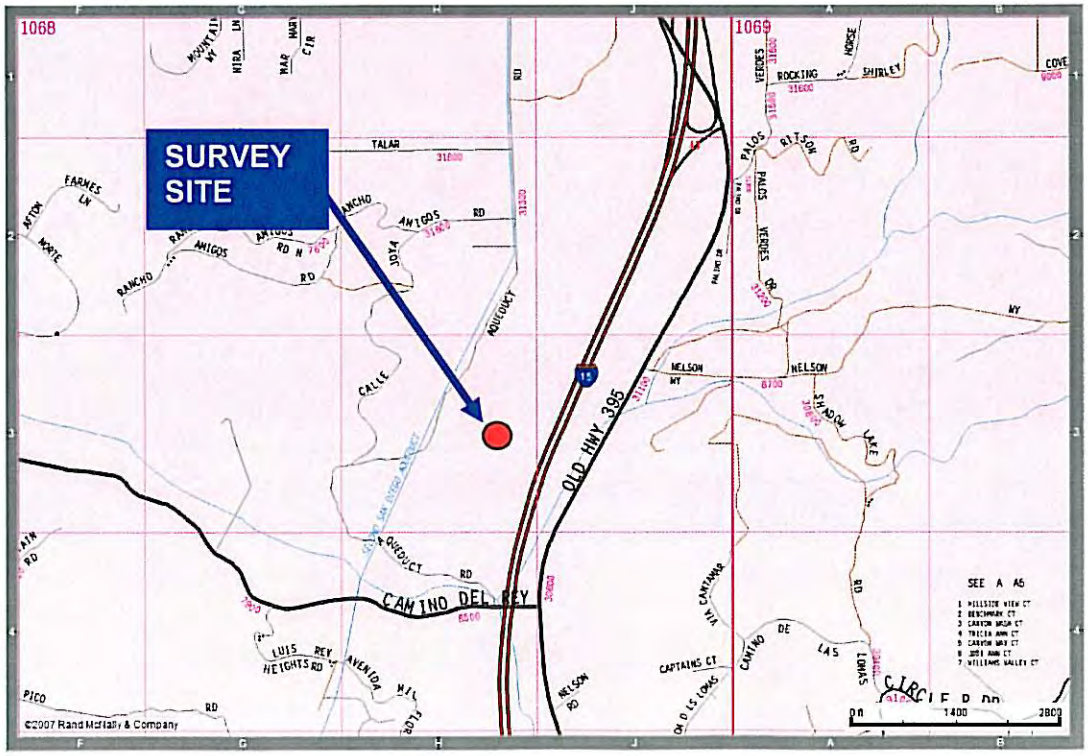


Figure 2. Detail location map of Survey site. Thomas Bros. Map page #1068, H3.

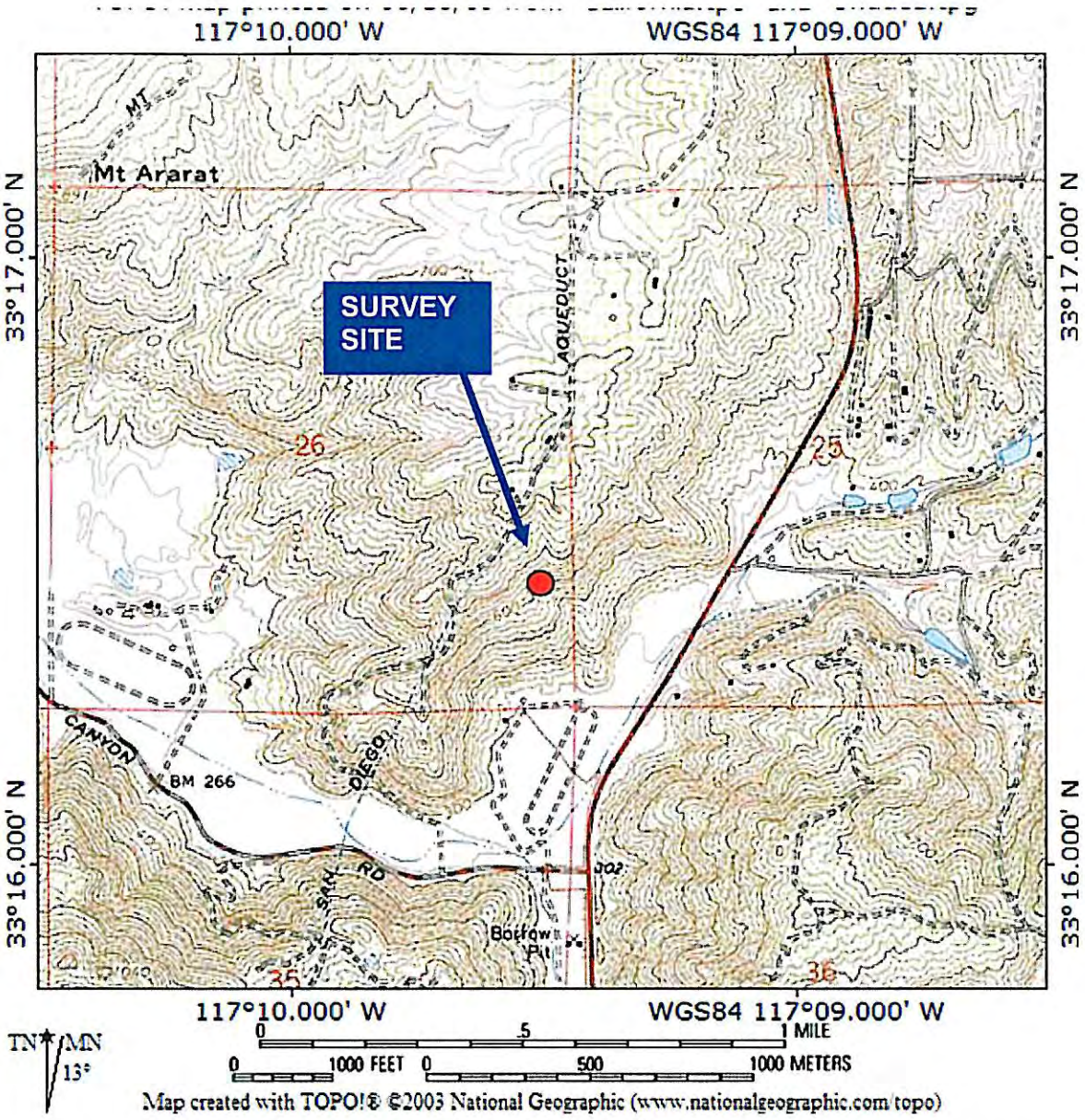


Figure 3. Topographical map showing survey site location. Taken from USGS Bonsall 7.5 minute series quadrangle.

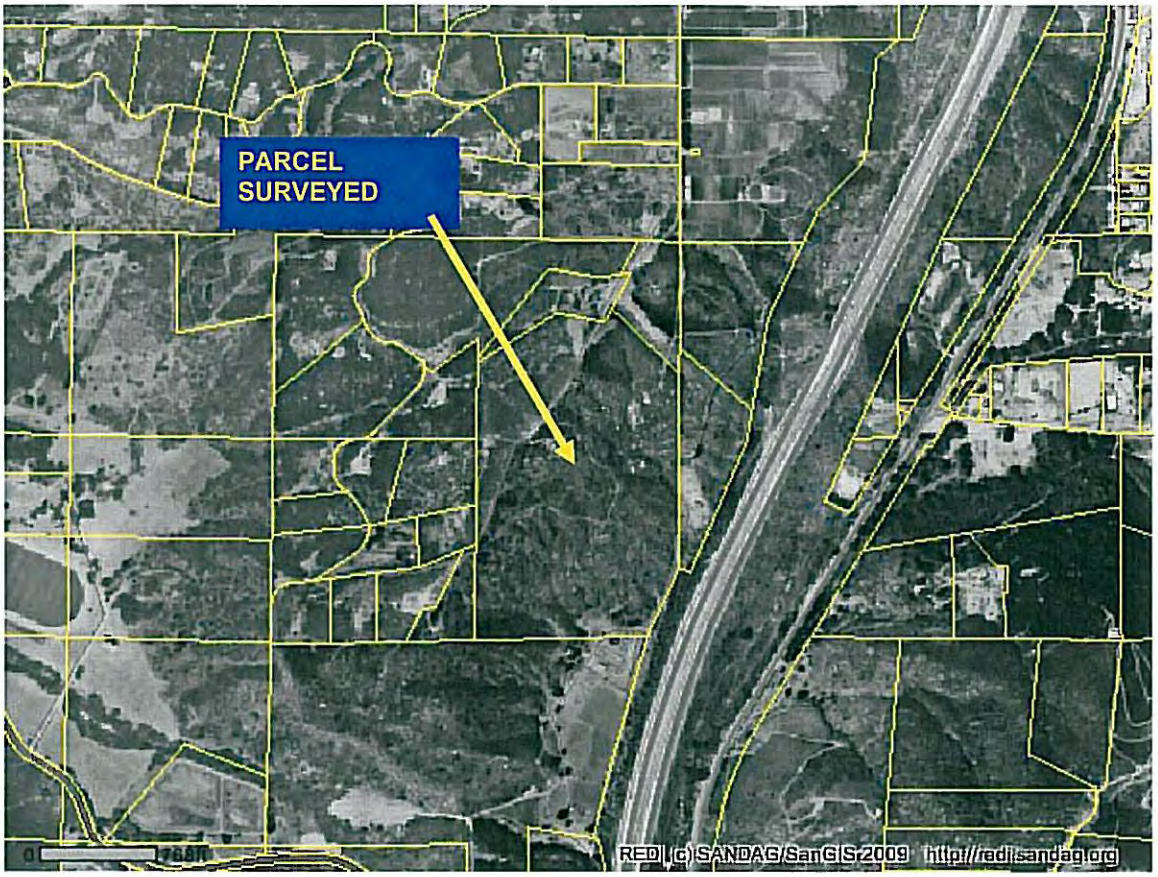


Figure 4. Satellite image of general vicinity of surveys, showing the parcel surveyed.

Figure 5. Satellite image of the parcel. Dotted lines indicate route surveyed. Red triangle indicates location of sighting of a single California Gnatcatcher.

APPENDIX F

PREPARER QUALIFICATIONS

William T. Everett is a research, consulting, and conservation biologist with more than 35 years experience in the San Diego environment and around the world. He has logged more than 14,000 hours of field work, all detailed with field notes. In the 1970's Bill apprenticed in the study of chaparral ecology under Frank Gander, the retired but renown premier California botanist of the 1930s and 40s. Although his specialty is ornithology, Bill has a long-standing interest in all endangered species management and conservation issues. As President then Conservation Chairman of the San Diego Chapter of the Audubon Society in the late 1970s, he gained a keen understanding of the conservation challenges facing a growing Southern California. He subsequently became one of the first Biological Consultants certified by the County of San Diego in the 1980s. Bill is a Fellow of the National Association of Environmental Professionals (NAEP) and subscribes to the NAEP Code of Ethics and Standards of Practice for Environmental Professionals.

Bill Everett has published numerous scientific articles and conducted research in Southern California, Alaska, Antarctica, Baja California, South America, and throughout the tropical Pacific Ocean. In 1977, in recognition of his accomplishments, he was appointed as a Research Associate of the Department of Birds and Mammals of the San Diego Natural History Museum, a position he holds to this day. In 1990 he was elected as a Research Fellow of the Zoological Society of San Diego, and in 1988 was appointed as the Senior Conservation Biologist of the Western Foundation of Vertebrate Zoology. The Royal Geographic Society of London elected Bill as a Fellow in 1996, following his election as a Fellow of the Explorers Club in 1990.

Hired as a biologist for the U.S. Fish and Wildlife Service in 1977, Bill conducted research on endangered Peregrine Falcons in Northern California at a time when their continued existence was questionable. His interest in threatened species led to publication by the Audubon Society in 1979 of his paper entitled "Threatened, Declining and Sensitive Bird Species in San Diego County" (Sketches 36:1-2). This paper contained the first published account of the decline of the California Gnatcatcher.

Beyond the Southern California area, Bill has prepared the seabird impacts sections for the Draft and Final Environmental Impact Statements for Hawaii-based Pelagic Fisheries of the Western Tropical Pacific Ocean (2001), received a National Science Foundation major grant to lead an International Biocomplexity Survey and Expedition to Isla Guadalupe, Baja California, Mexico (2000), led the effort to save North America's most endangered bird species, the San

Clemente Loggerhead Shrike (1991-1997), and currently heads up efforts to restore bird populations on Wake Atoll and Christmas Island in the central Pacific.

Bill holds a U.S. Fish and Wildlife Master Bird Banding Permit (#22378) with Endangered Species Authorization, and California Gnatcatcher Survey Authorization Permit # TE-788036. He received his Masters Degree from the University of San Diego in 1991, and completed a Post-Graduate Program at Harvard University's John F. Kennedy School of Government in 1997.

Bill served as a member of the Conservation and Research Committee of the Zoological Society of San Diego since the committee was first established. In 1990, he founded the Endangered Species Recovery Council (www.esrc.org), an international organization of scientists and conservationists dedicated to finding solutions to the problem of species extinctions. He continues as President of the organization.

In May 2002 Bill was honored in New York as a first recipient of the Explorers Club "Champions of Wildlife" award.

BIOLOGICAL RESOURCE MAP

WITH PROPOSED
BIOLOGICAL OPEN SPACE EASEMENTS

TPM 21159 RPL

HEFNER–BROWN

APN 127–110–81

WILLIAM T. EVERETT
EVERETT AND ASSOCIATES
ENVIRONMENTAL CONSULTANTS
POST OFFICE BOX 1085
LA JOLLA, CALIFORNIA 92038
(858) 456–2990

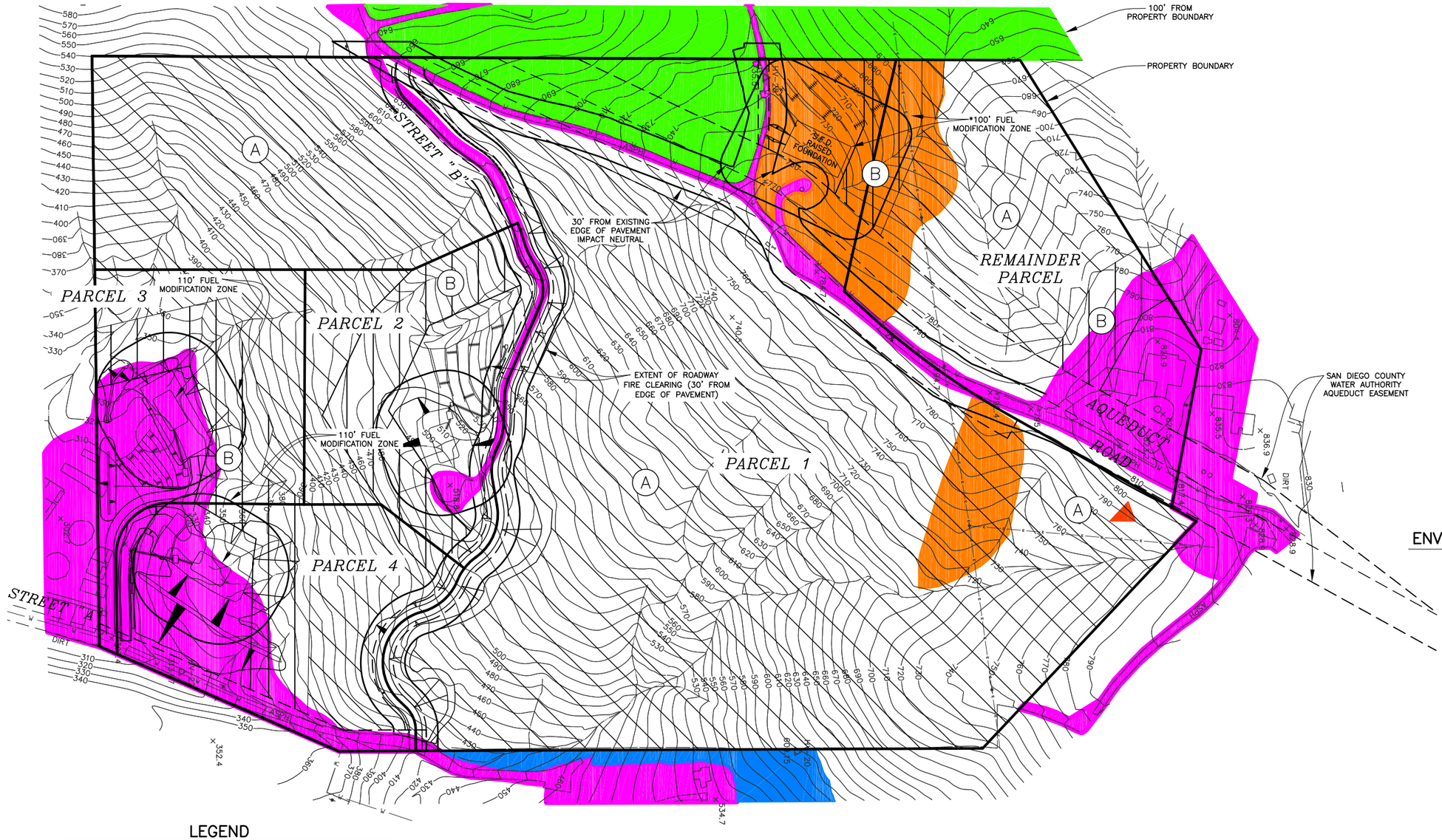
BASE MAP PREPARED BY:

SCOTT HARRY, P.E. 63792
KARN ENGINEERING & SURVEYING, INC.
129 WEST FIG STREET
FALLBROOK, CALIFORNIA 92028
(760) 728–1134

SCALE: 1" = 100'

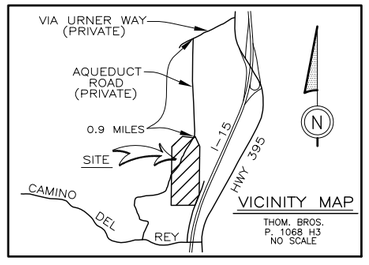
0' 50' 100' 200' 300' 400'

ENVIRONMENTAL LOG NO. 09–02–002



LEGEND

- SOUTHERN MIXED CHAPARRAL (4.04 ACRES) HOLLAND CODE 37120
- ROW CROPS HOLLAND CODE 18320
- ORCHARD & VINEYARD (2.05 ACRES) HOLLAND CODE 18100
- URBAN/DEVELOPED (6.60 ACRES) HOLLAND CODE 12000
- DIEGAN COASTAL SAGE SCRUB (45.21 ACRES) HOLLAND CODE 32500
- LOCATION OF GNATCATCHER SIGHTING
- (A) PROPOSED BIOLOGICAL OPEN SPACE EASEMENT
- (B) PROPOSED LIMITED BUILDING ZONE EASEMENT (110') (*100' FOR PARCEL 1 AND REMAINDER PARCEL)



EXISTING IMPACTED AND PRESERVED VEGETATION COMMUNITIES ON THE PROJECT SITE

PLANT COMMUNITY	ACREAGE ON-SITE	IMPACTED ACREAGE ON-SITE	IMPACT NEUTRAL *	ACREAGE PRESERVED ON-SITE	TOTAL MITIGATION REQUIRED (Ratio)	ON-SITE MITIGATION	OFF-SITE MITIGATION
DIEGAN COASTAL SAGE SCRUB	45.2	7.8	2.3	35.1	23.4 (3:1)	23.4	0
SOUTHERN MIXED CHAPARRAL	4.0	1.4	1.1	1.5	0.7 (0.5:1)	0.7	0
ORCHARD & VINEYARD	2.1	N/A	N/A	N/A	N/A	N/A	N/A
URBAN / DEVELOPED	6.6	N/A	N/A	N/A	N/A	N/A	N/A
TOTAL	57.9	9.2	3.4	36.6	24.1	24.1	0

*Includes areas within existing easements and existing roadway fire clearing requirement zones.

NOTE:
VEGETATION COMMUNITY MAPPING IS PREPARED USING OVERLAYS OF CURRENT AERIAL PHOTOGRAPHS AND IS VERIFIED ON THE GROUND TO THE GREATEST DEGREE POSSIBLE IN THE ABSENSE OF A SYSTEMATIC LAND SURVEY. ALL VEGETATION AREAS, BOUNDARIES, AND FUEL MODIFICATION ZONE LIMITS ARE ESTIMATES SUBJECT TO FINAL DELINEATION BY A PROFESSIONAL LAND SURVEYOR.

Mail to:
California Natural Diversity Database
Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDB@dfg.ca.gov

Date of Field Work (mm/dd/yyyy): 07/14/2009

For Office Use Only
Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Polioptila californica*

Common Name: California Gnatcatcher

Species Found? ☑ Yes ☐ No _____ If not, why?

Total No. Individuals one Subsequent Visit? ☑ yes ☐ no

Is this an existing NDDB occurrence? 681 Yes, Occ. # ☐ no ☐ unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: William T. Everett
Address: PO Box 1085
La Jolla, CA 92038
E-mail Address: everett@esrc.org
Phone: (858) 456-2990

Plant Information

Phenology: _____% vegetative _____% flowering _____% fruiting

Animal Information

1 # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown

☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ other

Location Description ***(please attach map AND/OR fill out your choice of coordinates, below)***

County: San Diego Landowner / Mgr.: Hefner
Quad Name: Bonsall Elevation: 800 feet
T 10S R 03W Sec 26, SE ¼ of _____¼, Meridian: H☐ M☐ S☑ Source of Coordinates (GPS, topo. map & type): USGS 7.5
T____ R____ Sec____, ____ ¼ of _____¼, Meridian: H☐ M☐ S☐ GPS Make & Model _____
DATUM: **NAD27** ☐ **NAD83** ☐ **WGS84** ☐ Horizontal Accuracy _____ meters/feet
Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☑ ***OR*** Geographic (Latitude & Longitude) ☐
Coordinates: 33.27707º -117.15820º

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*
Diegan Coastal Sage Scrub. Bird responded to taped vocalization during protocol survey.

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): ☐ Excellent ☑ Good ☐ Fair ☐ Poor
Immediate AND surrounding land use: Undeveloped. Surrounding land uses include rural residential and agriculture (avocados and flower nurseries)
Visible disturbances: None
Threats: None. Parcel to be developed but area w/gnatcatcher to be preserved in open space.
Comments: Site is adjacent to Interstate 15. Much traffic noise.

Determination: *(check one or more, and fill in blanks)*
☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☐ Other: _____

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☐
Habitat	☐	☐	☐
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? yes ☐ no ☐

Mail to:
California Natural Diversity Database
Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDB@dfg.ca.gov

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For Office Use Only
Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Reset

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Send Form

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Common Name: California Gnatcatcher

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Total No. Individuals one Subsequent Visit? ☑ yes ☐ no

Is this an existing NDDB occurrence? 681 Yes, Occ. # ☐ no ☐ unk.

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☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ other

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T 10S R 03W Sec 26, SE ¼ of _____¼, Meridian: H☐ M☐ S☑ Source of Coordinates (GPS, topo. map & type): USGS 7.5
T____ R____ Sec____, ____ ¼ of _____¼, Meridian: H☐ M☐ S☐ GPS Make & Model _____
DATUM: **NAD27** ☐ **NAD83** ☐ **WGS84** ☐ Horizontal Accuracy _____ meters/feet
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Diegan Coastal Sage Scrub. Bird responded to taped vocalization during protocol survey.

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☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☐ Other: _____

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☐
Habitat	☐	☐	☐
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? yes ☐ no ☐